

What is claimed is:

1. An interface for mounting a semiconductor device in a semiconductor package, comprising:

a die attach paddle;

a leadframe; and

a ground plane as a physical and thereto connected interface between said die attach paddle and said lead frame, a plane of said ground plane being interposed between a plane of said die attach paddle and a plane of said lead frame, a plane of said ground plane being parallel with a plane of said die attach paddle, a plane of said ground plane further being parallel with a plane of said lead frame.

2. The interface of claim 1, said physical and thereto connected interface between said die attach paddle and said lead frame comprising metal interconnects in metal strip form, a plane of said metal interconnects intersecting a plane of said die attach paddle under an angle.

3. The interface of claim 1, said ground plane comprising an uninterrupted frame spatially surrounding said die attach paddle, said ground plane comprising a square or rectangular geometric shape when viewed in top view.

4. The interface of claim 1, said ground plane comprising separated layers of metal spatially surrounding said die attach paddle, said ground plane comprising a square or rectangular geometric shape when viewed in top view.

5. A semiconductor device package, comprising:

a semiconductor device, said semiconductor device being mounted over a die attach paddle after a layer of die attach paste has been deposited over the surface of said die attach paddle;

a leadframe, conductive traces having been provided over the surface of said lead frame;

a ground plane, forming a physical and thereto connected interface between said die attach paddle and said lead frame, a plane of said ground plane being interposed between a plane of said die attach paddle and a plane of said lead frame, a plane of said ground plane being parallel with a plane of said die attach paddle, a plane of said ground plane further being parallel with a plane of said lead frame;

first conductive interconnects having been provided between points of electrical contact on an active surface of the semiconductor die and said conductive traces having been provided over the surface of said lead frame;

second conductive interconnects having been provided between points of electrical contact on an active surface of the semiconductor die and said ground plane; and

a mold compound overlying said die attach paddle, further enclosing said ground plane, further enclosing said first and second conductive interconnects, further enclosing said lead frame by a measurable amount.

6. The semiconductor device package of claim 5, said first conductive interconnects being selected from the group consisting of signal wires and ground wires and power wires.

7. The semiconductor device package of claim 5, said second conductive interconnects comprising ground wires.

8. The semiconductor device package of claim 5, said physical and thereto connected interface between said die attach paddle and said lead frame comprising metal interconnects in metal strip form, a plane of said metal interconnects intersecting a plane of said die attach paddle under an angle.

9. The semiconductor device package of claim 5, said ground plane comprising an uninterrupted frame spatially surrounding said die

attach paddle, said ground plane comprising a square or rectangular geometric shape when viewed in top view.

10. The semiconductor device package of claim 5, said ground plane comprising separated layers of metal spatially surrounding said die attach paddle, said ground plane comprising a square or rectangular geometric shape when viewed in top view.

11. A method of creating a semiconductor device package, comprising the steps of:

providing a semiconductor device;

providing a leadframe, conductive traces having been provided over the surface of said lead frame;

providing a ground plane, said ground plane forming a physical and thereto connected interface between said die attach paddle and said lead frame, a plane of said ground plane being interposed between a plane of said die attach paddle and a plane of said lead frame, a plane of said ground plane being parallel with a plane of said die attach paddle, a plane of said ground plane further being parallel with a plane of said lead frame;

depositing a layer of die attach paste over the surface of said die attach paddle;

mounting said semiconductor device over said layer of die attach paste, thereby mounting said semiconductor device over said die attach paddle;

providing first conductive interconnects between points of electrical contact on an active surface of the semiconductor die and said conductive traces having been provided over the surface of said lead frame;

providing second conductive interconnects between points of electrical contact on an active surface of the semiconductor die and said ground plane; and

providing a mold compound overlying said die attach paddle, further enclosing said ground plane, further enclosing said first and second conductive interconnects, further enclosing said lead frame by a measurable amount.

12. The method of claim 11, said first conductive interconnects being selected from the group consisting of signal wires and ground wires and power wires.

13. The method of claim 11, said second conductive interconnects comprising ground wires.

14. The method of claim 11, said physical and thereto connected interface between said die attach paddle and said lead frame

comprising metal interconnects in metal strip form, a plane of said metal interconnects intersecting a plane of said die attach paddle under an angle.

15. The method of claim 11, said ground plane comprising an uninterrupted frame spatially surrounding said die attach paddle, said ground plane comprising a square or rectangular geometric shape when viewed in top view.

16. The method of claim 11, said ground plane comprising separated layers of metal spatially surrounding said die attach paddle, said ground plane comprising a square or rectangular geometric shape when viewed in top view.

17. An interface for mounting a semiconductor device in a semiconductor package, comprising:

a die attach paddle;

a leadframe; and

a ground plane as a physical and thereto connected interface between said die attach paddle and said lead frame, a plane of said ground plane being interposed between a plane of said die attach paddle and a plane of said lead frame, a plane of said ground plane being parallel with a plane of said die attach paddle, a plane of said ground plane further being parallel with

a plane of said lead frame, said physical and thereto connected interface between said die attach paddle and said lead frame comprising metal interconnects in metal strip form, a plane of said metal interconnects intersecting a plane of said die attach paddle under an angle.

18. The interface of claim 17, said ground plane comprising an uninterrupted frame spatially surrounding said die attach paddle, said ground plane comprising a square or rectangular geometric shape when viewed in top view.

19. The interface of claim 17, said ground plane comprising separated layers of metal spatially surrounding said die attach paddle, said ground plane comprising a square or rectangular geometric shape when viewed in top view.

20. A semiconductor device package, comprising:

a semiconductor device, said semiconductor device being mounted over a die attach paddle after a layer of die attach paste has been deposited over the surface of said die attach paddle;

a leadframe, conductive traces having been provided over the surface of said lead frame;

a ground plane, forming a physical and thereto connected interface between said die attach paddle and said lead frame, a plane of said ground plane being interposed between a plane of said die attach paddle and a plane of said lead frame, a plane of said ground plane being parallel with a plane of said die attach paddle, a plane of said ground plane further being parallel with a plane of said lead frame;

first conductive interconnects having been provided between points of electrical contact on an active surface of the semiconductor die and said conductive traces having been provided over the surface of said lead frame, said first conductive interconnects being selected from the group consisting of signal wires and ground wires and power wires;

second conductive interconnects having been provided between points of electrical contact on an active surface of the semiconductor die and said ground plane; and

a mold compound overlying said die attach paddle, further enclosing said ground plane, further enclosing said first and second conductive interconnects, further enclosing said lead frame by a measurable amount.

21. The semiconductor device package of claim 20, said second conductive interconnects comprising ground wires.



22. The semiconductor device package of claim 20, said physical and thereto connected interface between said die attach paddle and said lead frame comprising metal interconnects in metal strip form, a plane of said metal interconnects intersecting a plane of said die attach paddle under an angle.

23. The semiconductor device package of claim 20, said ground plane comprising an uninterrupted frame spatially surrounding said die attach paddle, said ground plane comprising a square or rectangular geometric shape when viewed in top view.

24. The semiconductor device package of claim 20, said ground plane comprising separated layers of metal spatially surrounding said die attach paddle, said ground plane comprising a square or rectangular geometric shape when viewed in top view.

25. A semiconductor device package, comprising:

a semiconductor device, said semiconductor device being mounted over a die attach paddle after a layer of die attach paste has been deposited over the surface of said die attach paddle;

a leadframe, conductive traces having been provided over the surface of said lead frame;

a ground plane, forming a physical and thereto connected interface between said die attach paddle and said lead frame, a plane of said ground plane being interposed between a plane of said die attach paddle and a plane of said lead frame, a plane of said ground plane being parallel with a plane of said die attach paddle, a plane of said ground plane further being parallel with a plane of said lead frame;

first conductive interconnects having been provided between points of electrical contact on an active surface of the semiconductor die and said conductive traces having been provided over the surface of said lead frame, said first conductive interconnects being selected from the group consisting of signal wires and ground wires and power wires;

second conductive interconnects having been provided between points of electrical contact on an active surface of the semiconductor die and said ground plane, said second conductive interconnects comprising ground wires; and

a mold compound overlying said die attach paddle, further enclosing said ground plane, further enclosing said first and second conductive interconnects, further enclosing said lead frame by a measurable amount.

26. The semiconductor device package of claim 25, said physical and thereto connected interface between said die attach paddle

and said lead frame comprising metal interconnects in metal strip form, a plane of said metal interconnects intersecting a plane of said die attach paddle under an angle.

27. The semiconductor device package of claim 25, said ground plane comprising an uninterrupted frame spatially surrounding said die attach paddle, said ground plane comprising a square or rectangular geometric shape when viewed in top view.

28. The semiconductor device package of claim 25, said ground plane comprising separated layers of metal spatially surrounding said die attach paddle, said ground plane comprising a square or rectangular geometric shape when viewed in top view.

29. A method of creating a semiconductor device package, comprising the steps of:

providing a semiconductor device;

providing a leadframe, conductive traces having been provided over the surface of said lead frame;

providing a ground plane, said ground plane forming a physical and thereto connected interface between said die attach paddle and said lead frame, a plane of said ground plane being interposed between a plane of said die attach paddle and a plane of said lead frame, a plane of said ground plane being parallel

with a plane of said die attach paddle, a plane of said ground plane further being parallel with a plane of said lead frame;

depositing a layer of die attach paste over the surface of said die attach paddle;

mounting said semiconductor device over said layer of die attach paste, thereby mounting said semiconductor device over said die attach paddle;

providing first conductive interconnects between points of electrical contact on an active surface of the semiconductor die and said conductive traces having been provided over the surface of said lead frame, first conductive interconnects being selected from the group consisting of signal wires and ground wires and power wires;

providing second conductive interconnects between points of electrical contact on an active surface of the semiconductor die and said ground plane; and

providing a mold compound overlying said die attach paddle, further enclosing said ground plane, further enclosing said first and second conductive interconnects, further enclosing said lead frame by a measurable amount.

30. The method of claim 29, said second conductive interconnects comprising ground wires.

31. The method of claim 29, said physical and thereto connected interface between said die attach paddle and said lead frame comprising metal interconnects in metal strip form, a plane of said metal interconnects intersecting a plane of said die attach paddle under an angle.

32. The method of claim 29, said ground plane comprising an uninterrupted frame spatially surrounding said die attach paddle, said ground plane comprising a square or rectangular geometric shape when viewed in top view.

33. The method of claim 29, said ground plane comprising separated layers of metal spatially surrounding said die attach paddle, said ground plane comprising a square or rectangular geometric shape when viewed in top view.

34. A method of creating a semiconductor device package, comprising the steps of:

providing a semiconductor device;

providing a leadframe, conductive traces having been provided over the surface of said lead frame;

providing a ground plane, said ground plane forming a physical and thereto connected interface between said die attach paddle and said lead frame, a plane of said ground plane being

interposed between a plane of said die attach paddle and a plane of said lead frame, a plane of said ground plane being parallel with a plane of said die attach paddle, a plane of said ground plane further being parallel with a plane of said lead frame;

depositing a layer of die attach paste over the surface of said die attach paddle;

mounting said semiconductor device over said layer of die attach paste, thereby mounting said semiconductor device over said die attach paddle;

providing first conductive interconnects between points of electrical contact on an active surface of the semiconductor die and said conductive traces having been provided over the surface of said lead frame, first conductive interconnects being selected from the group consisting of signal wires and ground wires and power wires;

providing second conductive interconnects between points of electrical contact on an active surface of the semiconductor die and said ground plane, said second conductive interconnects comprising ground wires; and

providing a mold compound overlying said die attach paddle, further enclosing said ground plane, further enclosing said first and second conductive interconnects, further enclosing said lead frame by a measurable amount.

35. The method of claim 34, said physical and thereto connected interface between said die attach paddle and said lead frame comprising metal interconnects in metal strip form, a plane of said metal interconnects intersecting a plane of said die attach paddle under an angle.

36. The method of claim 34, said ground plane comprising an uninterrupted frame spatially surrounding said die attach paddle, said ground plane comprising a square or rectangular geometric shape when viewed in top view.

37. The method of claim 34, said ground plane comprising separated layers of metal spatially surrounding said die attach paddle, said ground plane comprising a square or rectangular geometric shape when viewed in top view.